

CLAIMS

What is claimed is:

1. A routing system operable to link a mobile platform to the Internet,
5 comprising:
a ground based communications link manager communicatively
linkable to the mobile platform;
at least one ground based prefix server in operable communication
with the communications link manager;
10 an initial destination address assignable to the mobile platform; and
a prefix server program operable to communicate the initial
destination address of the mobile platform to the communications link manager
and to the Internet.

15 2. The system of Claim 1, comprising a prefix number selectable from
a plurality of prefix numbers, wherein the initial destination address of the mobile
platform is assignable from the prefix number.

20 3. The system of Claim 1, wherein the prefix server and the
communications link manager are in operable communication with the Internet
using a global border gateway protocol.

25 4. The system of Claim 1, wherein the prefix server and the ground
based communications manager are in operable communication with the Internet
using at least one of a plurality of Internet service providers.

30 5. The system of Claim 1, wherein a new destination address is
communicable to the Internet using the prefix server during a travel segment of
the mobile platform.

6. The system of Claim 5, wherein the new destination address is
operatively communicable to the Internet using a second communications link
manager.

7. A method for operating a mobile platform communications system prefix server, comprising:

selecting a prefix number from a plurality of prefix numbers;
linking the prefix number to a mobile platform identification number;
5 linking the prefix number to a mobile platform destination address;

and

signaling to at least one Internet service provider the location of the mobile platform destination address.

10 8. The method of Claim 7, comprising:

adding data transfer routes between the mobile platform destination address and the Internet service provider;

confirming if a two-way communications path is open between a mobile platform and a ground communications link manager; and

15 withdrawing the data transfer routes when the two-way communications path is broken.

9. The method of Claim 7, comprising positioning the prefix server as a ground based unit.

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10. The method of Claim 7, comprising injecting a plurality of network layer reachability information into an internal border gateway protocol network.

11. The method of Claim 7, comprising notifying a plurality of route
25 servers of the prefix number.

12. A method for maintaining communications contact between a mobile platform and the Internet during a travel segment of the mobile platform using at least one ground based communications link manager, the method comprising:

- 5 creating at least one ground based prefix server operable to communicatively link the mobile platform and the communications link manager;
 programming the prefix server to operatively select a prefix number for the mobile platform from a plurality of prefix numbers;
 assigning the prefix number to the mobile platform for the travel
10 segment; and
 signaling via the prefix server a destination address of the mobile platform using the prefix number communicated via the communications link manager.

- 15 13. The method of Claim 12, comprising:
 selecting a new prefix number upon initiation of a new travel segment of the mobile platform;
 creating a new destination address using the prefix server; and
 signaling the new destination address using the prefix server during
20 the new travel segment of the mobile platform to operatively maintain communication between the mobile platform and the Internet.

14. The method of Claim 12, comprising:
 establishing a two-way communication path between the mobile
25 platform and the communications link manager; and
 adding a plurality of route paths using the prefix server after the two-way communication is established.

15. The method of Claim 14, comprising withdrawing the route paths
30 when the two-way communication ends.

16. The method of Claim 12, comprising mapping a unique aircraft identification number to the assigned prefix number using the prefix server.

17. The method of Claim 12, comprising injecting a plurality of network layer reachability information using the prefix server.

5 18. The method of Claim 12, comprising notifying a plurality of Internet route servers of the selected prefix number using the prefix server.

19. The method of Claim 12, comprising initially allocating the plurality of prefix numbers to a global pool of prefix numbers.

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20. The method of Claim 19, comprising:
creating a local pool operable to contain a first portion of the plurality of prefix numbers; and
assigning the local pool to an autonomous system in operable communication with the Internet.

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21. The method of Claim 20, comprising programming the prefix server to initially select the prefix number from the local pool.

20 22. The method of Claim 21, comprising programming the prefix server to operatively select the prefix number from the global pool if the local pool is empty.

23. The method of Claim 20, comprising programming the prefix server to add the prefix number to the local pool upon completion of the travel segment.

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24. The method of Claim 23, comprising:
programming the prefix server to add the prefix number to the global pool only if the local pool is in a full condition; and
withdrawing a plurality of route paths operably forwarded by the prefix server only if the prefix number is added to the global pool.

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25. A method for maintaining communications contact between a mobile platform and the Internet during a travel segment of the mobile platform using at least one ground based communications link manager, the method comprising:

- 5 creating at least one ground based prefix server operable to communicatively link the mobile platform and the communications link manager;
 programming the prefix server to operatively select a prefix number for the mobile platform from a plurality of prefix numbers for the travel segment of the mobile platform;
- 10 submitting a mobile platform request for the prefix number at the initiation of the travel segment;
 assigning the prefix number to a mobile platform identification number; and
 operating the prefix server to signal a destination address of the
- 15 mobile platform using the prefix number communicated via the communications link manager.

26. The method of Claim 25, comprising:

- establishing a two-way communication path between the mobile
- 20 platform and the communications link manager; and
 adding a first plurality of Internet route paths using the prefix server after the two-way communication is established.

27. The method of Claim 26, comprising withdrawing the first plurality of

25 route paths when the two-way communication ends.

28. The method of Claim 27, comprising:

- selecting a new prefix number during the travel segment of the mobile platform when the two-way communication ends; and
- 30 creating a new destination address from the new prefix number using the prefix server.

29. The method of Claim 28, comprising:
establishing a new two-way communication path between the
mobile platform and the communications link manager;
signaling the new destination address using the prefix server during
5 a new travel segment of the mobile platform to operatively maintain
communication between the mobile platform and the Internet; and
adding a second plurality of route paths using the prefix server.

30. The method of Claim 25, comprising notifying a plurality of Internet
10 route servers of the selected prefix number using the prefix server.

31. The method of Claim 25, comprising programming the prefix server
to operatively notify at least one other prefix server of the plurality of prefix
servers that a mapping of a mobile platform identification number to a route is
15 invalid at an end of the travel segment.

32. The method of Claim 25, comprising linking a mobile autonomous
system number to the prefix number.

20 33. The method of Claim 32, comprising modifying a network layer
reachability information message using the prefix server.

34. The method of Claim 32, comprising aggregating a plurality of route
paths using the prefix server.

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35. The method of Claim 32, comprising inserting a single network layer
reachability information message for a plurality of route paths.